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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

SJO920010108US1

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on August 21, 2006

Signature /David Victor/

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Application Number

09/972,310

Filed

October 4, 2001

First Named Inventor

Gary Thomas Axberg

Art Unit

2145

Examiner

Choudhury, Azizul Q.

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒ attorney or agent of record. 39,867
Registration number

☐ attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 _____

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August 21, 2006

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☐ *Total of _____ forms are submitted.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	G.T. Axberg et al.	Examiner	Azizul Q. Choudhury
Serial No.	09/972,310	Group Art Unit	2145
Filed	October 5, 2001	Docket No.	SJO920010108US1
TITLE	STORAGE AREA NETWORK METHODS AND APPARATUS WITH EVENT NOTIFICATION CONFLICT RESOLUTION		

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Applicants request a pre-appeal brief review of the Examiner's rejection of claims 1-23 as obvious (35 U.S.C. §103(a)) over Crockett (U.S. Patent No. 5,504,861).

Claim 1 recites a system for managing a network components, including storage devices and digital data processors, comprising: a first component that maintains a first representation of a topology of the storage devices and digital data processors in the network and that generates an event notification indicative of a change to the topology with respect to the network; a second component in communication with the first component, the second component maintaining a second representation of the topology and responding to the event notification by accessing the first representation; determining a discrepancy between the event notification and an attribute of any of the first and second representations; selectively disregarding the event notification or recovering the second representation from one or more attributes of the first representation in response to determining the discrepancy.

In the Final Office Action, the Examiner cited col. 2, lines 58-62 and col. 7, lines 34-44 of Crockett as teaching the requirements of these claims. (Final Office Action, pgs. 2-3, 19) The cited col. 2 mentions that an object is to provide a design to shadow write updates at a primary site to a secondary site so that the writes to the secondary site are optimized with full recovery capabilities. The cited col. 7 mentions specific sense information from the primary storage controller regarding the failure of an I/O write operation. An I/O ERP (error recovery program) may perform peer-to-peer synchronization error recovery to maintain data integrity between a primary and secondary storage controller.

The Examiner recognized that Crockett does not teach maintaining a copy of topology information and took Official Notice to have the disaster recovery information of Crockett's design be topology information since topology information is a form of disaster recover information. (Final Office Action, pg. 3).

Applicants request review because even if one were to modify Crockett to shadow writes to topology information to a secondary site, this modified Crockett still does not teach the claim requirements the second component accesses the first representation and determines a discrepancy between an event notification indicative of a topology change, and then selectively disregards the event notification or recover the second representation in response to the discrepancy.

Moreover, Applicants request review because Crockett teaches away from the claimed technique for providing the topology changes to the second representation. Crockett mentions that the primary storage controllers each grouped its respective record updates for an asynchronous remote data shadowing session and provides those record updates to the PDM. Transferring record updates from the primary storage controllers is controlled by the PDM (Primary Data Mover). (Crockett, col. 10, lines 54-65). Thus, in Crockett the primary controller initiates the transferring of updates by providing the updates, whereas the claims require that the first component sends a notification to a second component that causes the second component to access the first representation at the first component and determine a discrepancy and disregard the notification or recover the second representation from attributes of the first representation. Applicants request review because Crockett's cited technique for providing changes from the primary to secondary controllers differs from the claimed technique.

Further, the cited error recovery operation of Crockett concerns a failure of an I/O write operation. The claims however do not concern the cited error recovery of Crockett, and instead require an event notification of a change to the topology. This not an error as mentioned in Crockett. The Examiner has not cited any part of Crockett that teaches or suggests that the secondary site of Crockett receives an event notification of a change to data, and then checks for a discrepancy between the first and second representations as claimed. Instead, the cited Crockett discusses how to handle a failure of a write operation and a peer-to-peer synchronization error recovery. (Crockett, col. 7, lines 40-44)

The Examiner further cited col. 2, line 63 to col. 3, line 39; col. 9, line 52 to col. 10, line 9; and col. 10, line 54 to col. 11, line 37 (Final Office Action, pgs. 3, 19). These cited sections are similarly deficient for the following reasons. The cited cols. 2-3 discuss shadowing record updates at a secondary site that provides disaster recovery capability for the primary system. The primary site collects updates, forms consistency groups and sends the updates to the secondary

site. The cited cols. 9-10 discuss that the primary controllers synchronize to a sysplex clock. The cited cols. 10-11 discuss data shadowing. These cited sections fail to teach the claim requirements for the reasons discussed above.

In the Advisory Action dated August 7, 2006, the Examiner, citing the above discussed cols. 2 and 7, found that Crockett discloses the claim requirements because the “two hosts are updated against one another (so differences between data within each host is searched for” and that synchronization is capable of being triggered between the primary and secondary hosts. Although Crockett provides a technique for data at two different sites to be updated against one another, Applicants maintain that the cited Crockett does not disclose the claimed technique for providing updates from the first component to second, which includes the first component sending an event notification and the second component, in response, determines a discrepancy between the event notification and first and second representations, and then either disregards or recovers the second representation from the first representation. Instead, as discussed, in Crockett the primary controller (corresponding to the claimed first component) groups updates to send over to the secondary controller. The Examiner has not cited any part of Crockett that teaches this particular claimed technique for handling discrepancies between topology representations.

Moreover, Applicants request review of the Examiner’s use of Official Notice to justify modifying Crockett to synchronize topology information and request that the Examiner cite art supporting the modification the Examiner proposes. Applicant’s submit that the use of Official Notice is improper because the Examiner has not shown why synchronizing multiple representations of topology information on multiple components as claimed is common knowledge. Applicants request review because it is not appropriate for the Examiner to take Official Notice here because the facts are not capable of instant and unquestionable demonstration as being well known. See, Manual of Patent Examination and Procedure (MPEP) Sec. 2144.03.

Applicants further submit that the use of Official Notice in this Final Office Action is inappropriate because, according to the MPEP, “[w]hile ‘official notice’ may be relied on, these circumstances should be rare when an application is under final rejection or action under 37 CFR 1.113.” Id.

In the Advisory Action, the Examiner cited a new reference, Humblet (U.S. Patent No. 5,671,357), as teaching synchronization of topology information. Applicants request review because the Examiner is changing the ground of rejection. Humblet mentions that its invention relates to updating a topology by means of topology broadcasts. (Humblet, col. 1, lines 9-13) Applicants submit that although Humblet mentions updating a topology, the Examiner has not cited any part of Humblet that teaches or suggests the particular claimed technique for providing topology changes from a first representation to a second representation.

Applicants further request review of the rejection of claim 2, which depends from claim 1, and further requires that the network further includes a plurality of hosts, each coupled with one or more storage devices over the network; one or more agents each associated with one or more of the hosts, each agent generating a scan identifying attributes of any of (i) the host with which it is associated, (ii) one or more of the storage units to which that host is coupled, and (iii) a relationship therebetween; and wherein the agents are in communication coupling with the first component, wherein the agents transmit the scan to the first component.

The Examiner cited the above discussed sections of col. 2, lines 58-62, col. 9, line 52 to col. 10, line 9; col. 10, line 54 to col. 11, line 37 as disclosing the requirements of claim 2. (Final Office Action, pgs. 3-4)

The cited col. 2 mentions that writes at a primary site are shadowed at a secondary site with full recovery capabilities. The cited cols. 9-10 discuss how applications at the primary site synchronize to a sysplex clock, and the cited cols. 10-11 discuss how record updates are gathered and sent to the secondary site. Applicants request review because nowhere do these cited sections of Crockett anywhere teach or suggest the claim requirements of agents generating a scan of hosts and storage units to which the host is coupled and the relationship, and that the agents transmit the scans to the first component.

In the Advisory Action and the Final Office Action (pg. 4), the Examiner further found that agents are inherent in the design. Applicants request review because the Examiner has not cited where Crockett teaches or suggests that inherent agents or any other process generates a scan identifying attributes of any of (i) the host with which it is associated, (ii) one or more of the storage units to which that host is coupled, and (iii) a relationship therebetween.

Applicants further request review of claim 7. The Examiner cited the above discussed sections of Crockett as disclosing the additional requirements of claim 7. (Final Office Action, pgs. 6-7) Applicants traverse.

As discussed, the above cited Crockett discusses how to mirror updates to a primary site to a secondary site. The Examiner has not cited any part of Crockett that teaches or suggests the specific claimed functionality that recovers the second representation by performing at least one of the following operations: i) clearing the second representation and rebuilding that representation from attributes of the first representation; ii) comparing the first and second representations in whole or in part, and copying from the first representation to the second representation attributes missing from the latter, while any of deleting or marking as missing attributes in the second representation indicative of components present in the second representation but not in the first representation; and iii) copying from the first representation to the second representation one or more attributes indicative of any of (a) a component or relationships represented by an attribute in connection with which the discrepancy occurred, and (b) a component or relationship in a region a component or relationships represented by an attribute in connection with which the discrepancy occurred.

In the cited sections of Crockett there is no mention or disclosure of the above discussed functionality to handle a discrepancy between an event notification concerning a change to a network topology and the first or second representations of that topology as claimed.

Applicants further request review of claims 8, 9, and 10 for the reasons discussed in the Response to Final Office Action dated July 17, 2006.

Dated: August 21, 2006

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